

Cornell University

Rehabilitation Research and Training Center on
Employment Policy for Persons with Disabilities

**Edited Transcript of
June 8, 2007
Public Policy Forum**

**Harnessing Technology to Expand
Employment Opportunities for
Persons with Disabilities**

Speakers:

Paul Schroeder

American Foundation for the Blind

Kelby Brick, Esq.

HandsOn Video Relay Service

PJ Edington, Esq.

IBM Human Ability and Accessibility Center

Moderator:

Jeff Rosen, Esq.

Snap!VRS

Closing Remarks:

Steven James Tingus, M.S.

Institute on Disability and Rehabilitation Research

For further information about this policy forum contact:

Michele Cowen
tel (607) 254-8311
email mtc11@cornell.edu
web www.ilr.cornell.edu/edi

The **collaborators** would like to thank the National Institute on Disability and Rehabilitation Research (NIDRR) for funding our work on this paper. The opinions expressed are the speaker's own and do not represent official positions of NIDRR or Cornell University

The **contents of this policy forum** were developed under a grant from the Department of Education. However, these contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government. (Edgar, 75.620 (b)).

This **policy forum is being sponsored in part** by the Rehabilitation Research and Training Center for Economic Research on Employment Policy for Persons with Disabilities at Cornell University. This center is funded by Cornell University, by the U.S. Department of Education, National Institute on Disability and Rehabilitation Research (Cooperative Agreement No. H133B040013). This center is an across college effort at Cornell University between the Employment and Disability Institute in the Extension Division of the School of Industrial and Labor Relations and the Department of Policy Analysis and Management in the College of Human Ecology, and the Institute for Policy Research in Washington, DC.

The Co-Principal Investigators are:

Susanne M. Bruyère—Director, Employment and Disability Institute, School of Industrial and Labor Relations, Extension Division, Cornell University

Richard V. Burkhauser—Sarah Gibson Blanding Professor and Chair, Department of Policy Analysis and Management, College of Human Ecology, Cornell University

David C. Stapleton—Director, Cornell University Institute for Policy Research

Communication Access RealTime Translation (CART) Services for this event were provided by VLI and RealTime Reporter Sherry Knox, CCP.

Disclaimer: CART is provided in order to facilitate communication accessibility and may not be a totally verbatim record of the proceedings.

Welcome and Introductions

Jeff Rosen:

Good morning, everyone. This is Jeff Rosen. I want to welcome you to Cornell University's policy forum. It's harnessing technology. My name is Jeff Rosen and I will be your moderator for the day. And today we have a wonderful opportunity to discuss technology and how it relates to people with disabilities.

And I want to give you a little bit of an overview of the agenda for this morning. First, we will have Susanne **Bruyère** with a summary report about the -- actually, I'll give each person the ability to introduce themselves and we do have a wonderful panel and they will be providing you with their experiences with technology.

And we also want to give you time for a discussion and dialogue, question and answer. That's a very important part of our program and we're very excited about that. And we're honored to have Steven Tingus with us, who will be providing a summary as well.

And I want to do a brief introduction of everyone to get started because we do have the bios in the brochure, but first we have Susanne **Bruyère**. She's the Project Director for Cornell University's Employment and Disabilities Institute. I have known Susanne for quite some time. I think almost 20 years. We used to work at the EEOC, Equal Employment Opportunity Office together. We were developing information related to disability and Susanne will discuss about the EEOC where she used to work. They really do have a wonderful program that serves people with disabilities all over the U.S. and it was wonderful working with her.

We also have KJ -- rather, PJ Edington. She's a Senior Government Policy Executive for IBM.

And notice that does not have any sort of connotation of lobbying in that, lobbyist in that title -- [laughter] -- and she's very active in IBM's human access center, very creative technology for people with disabilities. And when I was working at The National Council on Disability, we developed some reports related to technology and industry and universal design. And she was very supportive with the universal design projects that we did.

To my left, I have Kelby Brick. He's one of the -- if there is one person that I wanted on my side during a war that would be Kelby -- [laughter] -- He's very supportive of people with disabilities. He used to be at The National Association of the Deaf. And he just recently, eight months ago, was hired by HandsOn Video Relay Service and he's their legal counsel now. He has eight months on me because I just got a job with Snap!Vrs and so I have been utilizing him for some good information and support and he's been very supportive of me.

And we also have Paul Schroeder who also has a great title: Vice President

of Programs and Policy for American Federation of the Blind. And I call Paul Mr. Technology. He's Mr. Technology of Policy. He's very active in technology and how it relates to the disability community with many issues related to telecommunications and access to various issues.

And he is very helpful with disseminating information about technology in the mainstream and we really appreciate his advocacy.

And lastly we have got Steven Tingus who is Director of NIDRR and he and his group have made this possible with national funding and he started at the beginning of the Bush administration when they announced the New Freedom Initiative. He was very involved with developing NFI and responsible for long-range strategic planning for NIDRR and he took it from having a heavy emphasis on rehabilitation and the medical model to a more active and social policy focused on independent living, so he has a very positive impact. So thank you for that.

And I also want to introduce our interpreters. I know his name and I have forgotten the female's name. We have got two wonderful interpreters for today. We have also got some other members from Cornell. And also from AAPD, Jennifer Simpson and we have got some fabulous people who have advocated for this to happen. And now I want to introduce one more person, myself. I am Jeff Rosen. I was previously legal counsel and director of policy for the National Council on Disability and worked in the government about 20 years prior to the NCD. I was with the EEOC and have recently transitioned into the private sector and am working for a company which provides Video Relay Service. It's a very interesting experience in transitioning, moving from the government to the private sector where we are currently. We really want to present information about the crossroads and the intersection between public policy and the private sector and how they merge and intersect. So that's definitely what we want to help focus on today.

One thing that I have learned in my new position is that you can't drive technology...What drives technology? What do we want to see developed?

In America of course technology has been part of rehabilitation services and that has been provided by rehabilitation centers and hospitals and the like. And we want to use those resources as much as possible and we want to make sure that we have a -- that we don't hit the cap on technology. As new technologies emerge, we see changes. We used to have a medical model, but now we see changes in those policies. We saw some government finance from NIDRR's -- especially from NIDRR, especially as they did research and development on assistive technology. Also we saw the emergence of civil rights or other legal rights, such as the Americans with Disabilities Act and Section 508 of the rehabilitation act and really those were key to causing technology and for us to see how that we could provide access to people with disabilities.

When I was on the National Council on Disability, we started to consider where rights became driven by the marketplace and how that worked. We really looked at and researched and talked about measures of disability and the market. And we talked about the -- or rather the benefits of universal design. We talked about the economy and the power of people and the power of marketing to people with disabilities and developing technologies in the mainstream. And there's still a healthy emphasis on assistive technology such as ways to facilitate interaction with the mainstream technology. And we worked with PJ to try to help with that. But it was very difficult. For example, when we looked at our experience with an ATM, the first issue that came up was why are people not being able to really access an ATM. So we talked with the providers of the ATM and the larger banking companies and the number of people in the blind community who could benefit from participation. But it was a very slow intersection and we really had to be very assertive and look at the legal implications and see a key carry-over, such as like when airports started bringing in kiosks for check-in, they were not very accessible. They are based on your understanding of marketing. And we really had to take more of a legal approach.

Also with cell phones...Celine O'Day has worked very hard on cell phone issues in trying to get companies to provide more of an interactive technology for blind people. But so far that approach hasn't really worked. And so we really need to get legal training to be able to move on that cell phone issue. I myself have had interesting experiences with Video Relay Service. It allows a deaf person or a hard of hearing person or a person who is speech impaired to use an interpreter through a video to a hearing person and two people will be discussing that more at length. But it was very interesting to me because there has been quite an overlap between the civil rights from Title IV of the ADA and what it requires as far as services and the private sector providing those services and I really do like the model that we have because it forces people to think about how they can provide better technology. And also it gives people who are disabled choices about how to use that technology and we really saw quick reforms in technology and then evolution in technology and it really has pushed technology, and it's legal resources through the private sector and public law. And so that will be part of our discussion today.

Now, before I start with Susanne, I want to hand it over to a man who needs no introduction. He just looked at me.

[Laughter]

Andy Imparato. He is the CEO of the AAPD, the American Association of People with Disabilities and he's been an excellent advocate for us, so I'm happy to bring him up here.

Andy Imparato:

Thank you. I'm going to be very brief. I want to welcome everybody on behalf of the AAPD and I wanted to take this opportunity to echo what Jeff said about Steve Tingus as the Director of the National Institute on Disability and Rehabilitation and Research. Steve has pushed the research field to focus more on research that is going to make a difference in the quality of life of people with disabilities and I know, Steve, you have been responding to pressure from OMB and other sources. But, you know, from my perspective, I have seen a dramatic change in the way NIDRR functions under your leadership. I also want to credit Cornell because I think Cornell has reached out more effectively to the disability community than most of the NIDRR grantees. And that really is under the leadership of Susanne Bruyère.

So at AAPD we're interested in research that we can translate into better policy and ultimately into better quality of life for people with disabilities. We're also interested in research that can help us make the case for better policy. And really that's the point of these policy forums, to surface ideas. We like it when people disagree with each other. We like it when people ask questions from the audience and we're put on the spot. We really like this to be a forum where people can say what they want to say. And the goal is to surface ideas for technology policy that will lead to better employment outcomes for people with disabilities. And if it also leads to better technology and better shareholder value, so much the better.

And I do want to acknowledge PJ at IBM and her company for again knowing how to partner with researchers and with disability advocacy organizations in a way that makes a stronger business case for what the folks who are going to be talking about.

So with that, I want to acknowledge Jennifer Simpson and Ann Someers from the AAPD staff who worked on today's event. Jennifer is our Director for Telecommunications and Technology Policy. Ann is our Policy Counsel.

And, you know, we have just really enjoyed this partnership with Cornell and Susanne, I think you're next. Susanne, as Jeff said, runs the Employment and Economic Self-Sufficiency for Cornell and she's internationally known for the research she's done around disability employment. So Susanne, thank you, and you're on.

[Applause].

Summary Report

Susanne Bruyère:

I'm going to stand so that you can see me and thank you, Jeff, for your introduction, and thank you, Andy. This has been a terrific partnership and I'm very excited about this partnership bringing today this topic that we have. I'm

going to take just a moment to check in with -- besides having this audience here, we have 50 some people signed up to be a webinar series. So I want to check in with our technology people that we're coming through okay with our off-site location.

Technology Response:

Great. We can all see it.

Susanne Bruyère:

Thank you. Thanks for your patience, everyone, who is at a distance. This is our attempt to try to bring this program to you who can't be in Washington today and technology brings wonderful benefits but also lots of other wrinkles so bear with us as we try to bring all of our participants to full, maximum participation.

So with that technology insert, I want to say thank you to all of you who are joining us today. Thank you to our AAPD partners. Thank you to Jeff for agreeing to facilitate this session and to our participants. Andy mentioned that this is - this series is funded under a NIDRR-funded grant, so we are doubly indebted to Steve here, not only is Steve one of our participants, but the head of the National Institute on Disability and Rehab Research which has funded this five-year project. This is a partnership across three Cornell University entities and I want to acknowledge two of my colleagues who are from The Institute for Policy Research here in Washington, D.C. Bonnie O'Day who is in the audience and Annette Goodman. Am I missing anybody else who is here today?

No. And the Employment and Disability Institute which I am from in Ithaca, New York and also another entity in Ithaca, Richard Berg and others whose names you probably recognize. We have other people with us, Mathematica and Rutgers University who also work with us on this Employment Policy Program that is sponsoring this series. Jeff introduced our speakers so I'll just skip beyond that. And I did want to do a little bit of a promo for our up coming sessions which are in the brochure that you have. We have another one coming up quickly on July the 27th on college issues, recommendations for improving long-term employment outcomes through advancements to higher education for students with disabilities. So please do think about joining us again for that event.

Now, I would like to talk just very briefly about two projects, which NIDRR has also funded for us, which are very much alive to the topic that we're speaking about today. And I wanted to acknowledge those projects and acknowledge NIDRR's leadership in continuing to promote technology issues for people with disabilities and also to explain why we are very interested and happy to have this as a part of our sequence. Cornell has been funded to do two projects that relate to the topic, both which I think make compelling argument for looking at both employment and educational issues for people with disabilities. The first was examining employer practices under Title I of the ADA and we did a survey of human resource

professionals because we were concerned that with the advancement of e-recruiting and other uses of technology in the workplace, that it might preclude people from equitable access both from getting into the workplace and workplace processes once employed and I'm not going to go through everything we have found. We have brought you copies of the study. We are happy to provide you with additional information. If you are interested, please just e-mail me or let me know here, but I do want to just show you one slide that I think confirms our concern in this area and this was now three years ago. But when we asked the employer organizations and there were about 450 employer representatives who responded to our survey, what they were doing at that time and this increases exponentially with over quarter that goes by, at that time. Two thirds of them said that they were using online employee training, either a great deal or some, online benefits even more. One in five are using them a great deal. And 2/3, about 2/3 a great deal or some. Online benefits even more, about 75%. And this is the one that wasn't the greatest concern to us and why we initiated this study, online job postings at that time, 90% of these people used online job postings either a great deal, almost 45% or some. And that was projected to be even increasing in the coming 12 to 24 months. So this is an important issue for us. How people access jobs is increasing through the internet and we want to be sure that those websites are accessible to people with a variety of different disabilities. So they are not precluded from this access to the workplace.

The other study we did was on web-based student processes. We are currently involved in the study. We are in the third year of a 3-year program. And similarly after our first experience in the workplace, we wanted to look at how students with disabilities and adults are being precluded from access to education through the increasing use of online e-applications?

And we particularly focused at the thousand-some community colleges in the United States, which according to the numbers that we looked at, about a quarter are self-reported people with disabilities. And so it's an important part of our educational system to examine. And similarly, we found that a significant proportion of student services are being offered online now. And our inquiry tells us that those websites are not very accessible.

When we surveyed, we received responses from about 800 institutions and asked them about their online processes. About almost 95% said their classes -- they have online classes. 95% Issue their class schedules online. Course catalogs, over half. Billing, better than 2/3. Course registrations, 4 out of 5. Financial aid, 87%. And our biggest concern here, admissions applications online, 87%.

So these are critical issues for us to be addressing in terms of access, both through employment and education. And it's just the tip of the iceberg in terms of how technology, an increasing use of it in the workplace can both help but also can be a needless barrier. These are fixes that are easily done. The technology, the format, the protocols are there.

We just need to inform employers and educational institutions about how to apply them to open that world to people with disabilities.

So that's what we have been doing. My e-mail is on the materials and here. I'd be happy to give you more information. Thanks for your attention and thanks again for coming.

[Applause].

Panel

Jeff Rosen:

Thank you Susanne, for that very interesting information. I do want to emphasize that when we're talk about web accessibility, people tend to think that people who are blind have issues. But really it's more broad than that. If you have limited English proficiency, many deaf people have issues as well. They have a hard time accessing websites. If you have a cognitive disability, you might not have good access to websites. So it's not just a blind issue, which is what most people think about. It's really a cross-disability issue. So, Susanne, thanks very much for that. And I want to hand off to Paul Schroeder. Are you ready, Paul?

Paul Schroeder:

Okay. Hopefully this microphone will work okay. Okay. I'm going to stay seated for the moment unless I get excited about the technology thing, so I won't go wandering around, tripping over cords and such, maybe pulling out projectors just for fun.

[Laughter].

We recognize this critical role that information technology plays in employment at the American Foundation for the Blind, and we did this by establishing our center called The Technology and Employment Center. It's actually based in Huntington, West Virginia, but that's where we are focusing now on the issues around access to technology and how that then in turn affords access to employment. We are spending a fair amount of our time trying to help manufacturer's, designers, et cetera, improve the accessibility of their technology for people who are blind or visually impaired.

I also want to stress that at our Technology and Employment Center we have a program called Career Connect. And I will be remiss if I didn't spend at least a second doing a commercial for Career Connect. It is our online set of resources for job seekers with vision loss professionals who provide services to this group and employers who themselves should be or hopefully are interested in accessibility, employment, et cetera. One of the things that I like to tell people about Career Connect, especially for employers, is it's a place to go and ask those questions that

you probably are or perhaps should be too embarrassed to ask the applicant sitting in front of you. Like, you know, how will you find the bathroom?

Believe it or not, we get these questions.

How will you get to work? The truth is the employer has these questions in their mind. Going to a place like Career Connect, provides the good, anonymous opportunity to be able to look and get answers to some of those kinds of questions. How do blind people get around independently? What kind of technologies are available to make the workplace accessible? And, in fact, how might people get access to these technologies?

So afb.org is our website, and you can find Career Connect on that website. You can also find a wealth of material that we have published and developed around technology, particularly technology in employment and that would be frequently in our publication known as "Access World"...It is a 'websy,' a web-based magazine.

I am often cited my friends in the rehabilitation arena for sometimes getting too excited about the role of information technology and all that it is meant for people who are blind and visually impaired in employment. For me it is hard to overstate the benefits of IT-based employment opportunities for people with vision loss but it does bear in reminding and I think we would all agree that as beneficial as information technology is, of course there are many factors that are critical in determining whether or not employment is going to be successful for somebody with a disability. Information technology and all of the issues around it are simply one of those factors.

Improvements in assistive technology and computer-based hardware and software have all led to enormous expansion and opportunities in employment for people with vision loss certainly. The advent of sophisticated screen reading software and screen access software, synthesized speech, refreshable braille displays, video magnifiers and on and on, all of these have been part of enabling individuals with individual loss to participate in this new technology-based employment revolution. Whether it's entry-level positions or top management.

However, all is not particularly smooth at the intersection of technology, telecommunications, and employment. Jobs often feel very precarious and many jobs feel out of reach because of barriers in the technology environment.

I want to talk about four sets of these barriers. First one is the assistive technology, information technology interface, AT/IT interface. I'll probably lapse into AT/IT a lot. So I apologize. If nothing else, it just takes an enormous amount of braille space to write the darn words out.

[Laughter].

When we queried our Career Connect mentors, and yes one of the powerful aspects of our employment program is its database of mentors of individuals with vision loss who are working, who are providing time and support to individuals with vision loss who are job seeking...When we query these mentors about their concern in technology and employment, we received a very interesting set of responses back from them. And I'm going to refer to a couple of those.

One of those had to do with the problems of assistive technology keeping up with changes in mainstream technology. The IT applications or even websites that people depend on as we just heard about, for example, for online training, are in many cases accessible one day and seemingly inaccessible the next because of the rapid changes that are taking place in information technology and in web design. Similarly, proprietary software applications often interfere with or are simply not accessible for the assistive technology that people with vision loss need to use. These often require a fair amount of effort if they are made accessible at all, these proprietary softwares.

I want to just stress four particular trends in this area to put on the table. Increased use of customized applications delivered in a network environment seem to cause a great deal of trouble for the assistive technology used by individuals in the employment setting.

Migration to non-windows operating system, Mac, Lennox, et cetera. This is a little bit of geek speak here, but there has been a tremendous amount of work here to make computers running in the Windows application fairly accessible. The other systems, Mac and Lennox in particular, there is not so much work being done in that area and the access is very precarious if it's available at all. The increasing pace of new standards I have already alluded to as the rapidly changing world of the IT and of web design make accessibility go away in a matter of moments. And then with the increase of use of online, web-based training et cetera, there are a lot of concerns. Training tends not to be very accessible on the web and then of course there are secure web environments. I want to recognize Microsoft and IBM for the work that they have done to try to make the IT/AT interface go smooth over time.

The second set of barriers I want to focus on is the inter technology itself, which is all too common place and I'll just mention three areas in particular. One is office equipment. We did a lot of work at AFB Tech to look at multifunctional office equipment -- the document centers that copy, print, fax, et cetera-- and we did this because employers said this is one of the challenges they were facing in their work sites for people with vision loss, and how to make these accessible. The problem with these systems is they depend on small LCD displays. If you have some vision loss, obviously they are not readable at all. And there's typically no speech output built in with these devices. It's also had to do input into these devices typically. I want to recognize them because we recently gave Cannon an access award for the

work they had done in making a multifunctional device of this sort accessible out of the box, with built in accessibility.

Even the small desktop functional systems which are driven by software had proven to be problematic for some of the reasons I said before. In particular the proprietary software that's used and doesn't work well with the screen readers that people use with their computers.

Telecommunications is an interesting environment and I'm going to touch on this at the end when I talk a little bit about policy stuff. But suffice to say that the business telecommunications environment has gotten to be far more complicated and far less accessible for people with vision loss as the telecommunications equipment itself has gotten to be more complex and typically not very accessible for people with vision loss.

Lastly in this area of the inaccessible is Personal Digital Assistant, the Blackberrys that many of you are carrying around. I think those of us who want Blackberrys are the ones who can't have them and those of you that have them would love to get rid of them.

[Laughter].

It's sort of a weird contrast of PDA accessibility. Nonetheless, the problem is the PDA's are generally not accessible. They are certainly not accessible out of the box, very small displays, not very readable and limited means of doing any input even if there were an accessible output of what's on the display for somebody with vision loss. There have been some third-party elements to develop software that would make PDA's accessible, but these efforts, while promising, are still expensive, encompassing and not proven yet as making this a means of being accessible. This is not a trivial matter as the amount of dependence on Blackberrys and the Blackberry plot form is critical in the workplace and there really isn't a suitable alternative for people with sight loss that has been developed, though we keep hearing tantalizing report of possibilities.

I'm going to skip over access to printed materials. That does remain a challenge. Materials that do not scan well -- we can come back to that.

Training is the third barrier. I want to just take a quick moment to mention this. You know, it -- we often forget the importance of training. Assistive technology is complicated and complex to use. It is not an easy environment in many cases, especially if one has to keep up with constant changes in the workplace, like information technology that you're trying to access with your AT or if you are trying to use an independent piece of assistive technology like the note taker I have in front of me. And yet the critical importance of training, training for people with disabilities is inconsistent and often meager in terms of its availability.

Similarly, IT departments lack the information that they need and in the query by Career Connect mentors we received many responses and received other responses as well on this topic, that IT departments generally don't know very much if anything about assistive technology. They make changes really without regard to their users and they simply don't know how to incorporate AT into the changes to the information technology network in the workplace environment.

Last barrier I want to touch on is one that should also be obvious, and that is cost. While information technology is in the mainstream, costs have dropped significantly as capacity has increased. Costs for assistive technology have tended actually to increase. Yes, capacity has increased also. Now it's not unlikely for a screen reader to cost as much or more to the computer to which it provides access. Similarly, I mentioned the beginnings of third-party access to these Personal Digital Assistants, the cost for the screen reading software, the key board and the braille display that one might need far outstrip the reader itself. Braille note takers can easily cost more than \$6,000. These of course are prohibitively expensive for individuals, but also create stress in the employment setting and many times we hear about debates between employers and the rehabilitation industry, about who is actually going to bear the cost for accommodations. We would clearly note that ADA is clear on this point, but nonetheless there is a lot of debate about who bears the cost.

A couple of recommendations. First of all, it strikes me every time I look at this employment issue, I'm surprised at the lack of research that's been done to look in a hard headed way at the role of technology and accommodations in occupations that are now highly used in the labor market. Occupations that breed high employment in the labor market do not believe that we have done enough research to look at the role of technology and accommodations in those occupations, as well as looking at occupations where there is high growth. I hope that's something we can address. Secondly, while there are some wonderful tax credits and changes in the tax code that have made it possible for employers to be able to receive incentives for accommodations, I think there's always scrutiny that the tax code is keeping up with the accommodations and that in fact employers do know about them and can easily receive these incentives. Third, to develop assistive technology so that we can improve the challenge of assistive technology in keeping up with the changes in information technology.

Fourth, it is an odd situation that they have website telecommunications, which is a highly regulated environment, has an accessibility requirement built into it in Section 255, whereas the rest of the website world, the predominant part of the website world, the computers and the other equipment used, has no regulatory mandate for accessibility. The closest that we come of course is Section 508 which is indirect at best. I of course am often accused of saying that there is a policy for every problem and in fact that may be true. But it certainly seems as though we ought to be investigating how we can ensure that the workplace is accessible and

that the information technology used in the workplace is accessible, and if it has to come to mandates, then that's perhaps something that we should be looking at, is how to make a policy work in that kind of environment.

Last point is the importance of training and information, especially for rehabilitation professionals. Job Accommodation Network is a wonderful tool and I want to make sure that you and employers know about it. But we also need to make sure that rehabilitation professionals have competent sources of information and training on assistive technology because in many ways it's the rehabilitation professional and the individual employee with a disability who are really going to be looked to as the experts on how to make the work site accessible and we have got to make sure that these individuals are equipped as much as we possibly can with the information they need in a timely basis.

Thanks.

[Applause].

Jeff Rosen:

Wonderful job, Paul. Thank you so much. Now I'm going to turn it over to Kelby Brick for his presentation.

Kelby Brick:

Thank you, Jeff, for the warm introduction. It's an honor to be here and there are quite a few people here, especially Jeff and Andy who have mentored me over the years. And my thanks go to them for opening as many doors as they have and I appreciate you being here as well as everyone else.

Okay. This is an interesting topic that I would like to discuss, the intersection of technology and telecommunications with disability employment policy. There are quite a number of them that will be repeated and several studies that have been conducted that show how people with disabilities are underemployed or unemployed. In comparison and in proportion to the rest of the population, that is.

Technology can be a solution if we figure out how to harness and use it. Now, I agree with many things that have been said this morning, but I have a different perspective on it.

Technology is something we have, and there is a lot of great technology, and on my power point you're going to see various technologies that exist in various stages of development like braille screen readers, et cetera.

Now, I'm not saying that all technology is the right technology and we are where we should be...Not at all. There still is a lot of technology that needs to be developed. But my argument is that while we have wonderful technology available that exists, we don't use it. It's under used. It's under utilized and it's a

very difficult problem to address new technology if the current technology is not being used. And my fear is being separated in the gap between having technology and being in the disability community that can't use it.

There are people who are fortunate enough to be involved in the technology field, but most people in the general population don't have access and the ability to use technology. Now, while Paul put out some impressive numbers in terms of cost in using technology, my friend Sonny happens to be one of the people who are lucky enough to be rich -- who says you need to be rich in the community of people with disabilities to use it.

So there should be a way to use technology and to reach out to what we currently have. So my argument is that policy is the problem. We have managers and people who are doing hiring and supervisors who are unwilling to implement the access needs for that technology. For example, a few weeks ago I gave a presentation at a conference of deaf and hard of hearing people who are working in the government sector. And we were discussing using Video Relay Services. Maybe one of the greatest success stories of the ADA, and I heard a lot of stories about people using it for the first time who got a promotion or something like that. For the first time in 20 years having access and getting a job and being hired into it.

So what about those people who don't have access to VRS? Bosses who say no? IT people saying no? Some people say I don't have the funds or, sorry, we are not allowed by policy to reconvert our technology to accommodate people in that area. IT people come up with all sorts of reasons why they shouldn't do it. Managers and supervisors and even employers who aren't willing to say, well, "that argument is acceptable" or "we'll find a way to do it." And that really upsets me. We expect all people who are working, who have a job, to do a good job and to finish their job. And how can we allow it people to say that's not possible? How is that acceptable?

We have great laws as far as ADA Section 508 and so forth, various laws. But the enforcement is not there. People are afraid to pursue their rights. People have come up to me and said I know I have the right to this and that and several different technologies, but my boss says or my supervisor says no. And, you know, I don't want to confront them. I'm lucky to have a job in the first place. I see a lot of my friends with disabilities who can't find a job. Now, they say, well, I don't want to confront someone or talk about Section 508 if I'm going to lose my job, similar to if I don't want to dress a particular way and lose my job that way. Why fight something like that? It's tough.

Now, obviously there are gaps in laws. Laws need to be improved. We have a great new coalition set up. The Coalition for Accessible Technology, is pursuing great legislation and regulations to fill in the various gaps and that's great. And

we need to support those as well. We also have a lack of role models, insufficient numbers of individuals with disabilities who can provide leadership for those people without disabilities. Paul mentioned earlier in his presentation employers interviewing people and having questions in their mind but not asking them. How do they get to their job? How do they show up and all of that?

The reason employers are concerned is because they haven't been exposed enough to those people in high enough positions to fill them in on those clues. People with disabilities say, "Oh, it can be done. We're already doing this." Well, fine, well, we hire them and then they're accessible to the workplace.

I argue that feds are failing as a model. Throughout my life, I have studied various civil rights movements, especially here in America. The federal government has served as a role model, as a gatekeeper, as well as opening doors. And what I mean by that is that if you study the numbers of the rise of employment of women, or people of color in the corporate world, you're going to see that rise in the federal government and legislation as far as affirmative action increase. Now, I'm not saying it's enough. We need to do far more of it certainly. But what I'm trying to say is that hiring people and promoting people so that those people have more of a network in the government, and skills to offer so that they are given more opportunities to create more experience through networking and accessing the corporate world. So hiring more people like them who can do the job is the key to success. It would be a domino effect.

We don't see that in the federal sector as much. In fact, we're losing employees to the federal sector. The federal government is not hiring or retaining or promoting their people enough, so how can we expect the private industry to hire more and promote more if they are not seeing it? Let me give you some examples. The general population of people with disabilities is approximately 10 million or so. There's definitely a lot more of 1% of federal employees who are severely disabled and those statistics came out last year. And these are people with serious disabilities, which is not in proportion to the rest of the population in America. Since 2001, disabled federal employees have left the government at more than twice the rate at which they were hired. Let me give you an example, some exact numbers. In the fiscal year 2005, 810 newly employees were there versus in 1997 who left. We are not retaining them. We are losing them over various reasons: frustrations to not being promoted, not having access to technology and being disgruntled in the workplace causes people to leave. Obviously we have management problems. We have policy problems, and that's not going to change until we solve the management problems. The federal government must provide a better role model.

Now, I'm going to be a little bit rough here, but you're all friends. Now, I'm hoping I can be honest with you and you can agree with me and we don't look like we don't know what we're talking about. But disability policy is frequently developed

and led or enforced by ignorant individuals.

Okay. For example, looking to the EEOC office, human resources office, there are people there who don't have a vague idea of what Section 508 is. They don't have a vague idea about using accessible technology. They don't have a background in disability policy or disability technology whatsoever. They are in charge with enforcing the law and there is a problem there.

At the same time, people with disabilities are ghettoized and what I mean by that is while we have competent people with disabilities in the workplace, we put them in issues where they are focused on disability issues only. More and more people with disabilities need to be put in positions where they can focus on things other than disability policy. How can we get people in disabilities in higher management positions? Department of Commerce? Department of Defense? The SEC just to name a few? Environmental Protection Agency?

All across the board, regardless of what their job titles are concerned with, people with disabilities can work in different fields. While we need to move people with disabilities in those positions, obviously it has nothing to do with disability, but disability policy. How can people with these skills do their job on a daily basis? Those kinds of questions are going to make a bigger impact when they are answered as opposed to people who are involved only in disability policy and positions of disability policy.

Now, another problem is assuming that disability means they are an expert in disability policy and that's not necessarily true. We have people who are training experts in biology. Experts who know all kinds of different analysis and biological terms and so forth. But just because that person has a disability, the employer tends to put them in an area where they're expected to handle disability policy only and that is way off the mark from what their job should entail. They are a specialist in biology and that hurts the person and the field if they are not placed there. Being disabled does not mean you have experience and knowledge in disability training and policy.

We also have managers who lack expertise in disability policy. Managers who are not willing to hire an expert to come in and advise them on how to deal with people with disabilities.

The damage is clear. We have got weak policy development or enforcement. Most employers -- IBM is obviously an exception to what I'm saying now -- [laughter] -- but the federal government doesn't follow their own laws in terms of enforcement, so why should we? Under our unemployment results. People say "oh, the heck with it" and they jump off the boat and then they leave their job and that puts a burden on us.

We don't want to lose brilliant people from good jobs, you know, in terms of world economy and how the rest of the marketplace would suffer if these trends continue. We're seeing changes all across the board all over the world. We want the federal government to look like us. We're requiring systemic changes in terms of long-term results. The SPD has a great approach. Excuse me, the AAPD has asked -- not demanded -- but asked and expected responses from all the presidential candidates that they have assistive technology in their campaigns. It's a very important position to take. So that's one step further. But not just assistive technology. We should also have the power to make decisions. We should have the power to force various departments and various agencies to make those changes. I don't want to just assist or advise the president. I want a position of authority to get in and have agencies follow mandates. We should demand accountability from our federal government, and that's when the federal government should start to realize that we're here and we're Americans. We want to support AAPD's position, and why should we push for all this?

A stronger, smarter and more efficient economy. We should be reinvesting our money and putting it to better use. The return would be much better and benefit all taxpayers. Americans are far behind in terms of the global economy. I argue that the reason is because we're leaving some of our best and brightest minds behind on the street. And that's just not acceptable.

I would like to close with one short story. It's a parable or whatever you want to call it, maybe an anecdote. A family was on the road driving and they decided to go skiing. And they ran into some bad weather, a terrible snowstorm and they were stuck on the road and they didn't know how to get through it. And all of a sudden they saw some headlights over to the right and decided to follow those. They got closer and realized, oh, those lights were actually a snowplow. They got behind the snowplow, followed it through. Now, it took a while, a couple of hours to get through, but all of a sudden the snowplow stopped. But it was still snowing badly, it was a blizzard. So the driver got out and walked around to the family car behind the plow and said, roll down your window. Why are you following me? The driver said because you're clearing the road. And the snowplow driver said, you should realize that I'm blowing off the snow out of this small parking lot. So in many ways that's why I feel like our managers and employers are doing as well, we're going in circles because the openings are right in front of us but they are not going anywhere.

Thank you.

[Applause].

Jeff Rosen:

Now you understand why I said that he was the one person that I wanted if there was a war. Thank you, Kelby, for that great story and really talking about issues with technology and with, you know, people. Now, I want to hand it off to PJ. I saved the best for last obviously.

PJ Edington:

Okay. Well, thank you. I am thrilled to be last because I got to hear Paul first who really laid out the issues very clearly and we really agree on all those. Paul and I do sit on some policy issue teams together and he really has it all together. And, Kelby, I appreciate your comments. Although some of them I don't agree with. I do see that we have some of those issues and we are trying to solve them, and the one issue I don't agree with on was the statement when you said "Americans are far behind in the global economy"...Not an issue on the policy, but on the economy. I think we're doing a great job. Although we do have to keep our eyes open. So that's my issue with you.

I'm going to quickly go over some things. I'm going to approach it a little differently, from a corporate perspective and just quickly go over how IBM approaches this. And then I would like to raise what I think are some difficult future issues that we're going to be facing where I think Paul and Kelby have looked at where we are now in the issue of absorbing the technology for jobs and employment now, I think we're heading on a path with the rapid development of technology into an even more critical spot. And so I think it's something that we really have to look at and start developing even a stronger policy in this area so we don't get farther behind.

But just quickly, I did want to put up a quote from our Senior Vice President of Research and this is the person who oversees everything we do in technology and I think it's important because it says where IBM is on it and I'll just read it quickly.

It's accessibility is important to IBM and not just because it's the right thing to do for our people, but because it's an essential part of our business and also because I believe driving higher levels of accessibility will be the primary way we begin to solve the difficult usability issues that information technology has thus far not been able to solve. And those are some of the things that Jeff and the report talked about with the usability issues. I think it's important because it puts our company the way research is going. It places us in the right place to move forward.

Just quickly, with IBM and employment, technology definitely isn't our major issue. Only because IBM has a history and a culture of not only diversity, but hiring people with disabilities so that we have always been there to not only provide our employees with the technology they need, but they are also an integral part of helping us develop the technology they need.

So the issue for us, some of the sticking points, are in the recruiting and supporting people with disabilities. Kelby, you talked about people leaving the company. It's the same kind of things in the private industry. We have to create a place: the networks, the support to keep people in our company because we do have 348,000 people worldwide. It's a very big place for everybody to learn and grow in the

corporation. It's particularly difficult if you don't have the role models that you need in the company to move forward. So we're lucky in our HR department to have terrific people that are putting new programs online altogether. Some of them which I have got on the power point. The entry point program. I see Jenny Stern who runs that program with us in the audience. I just listed some of them. Project Able, LIFT, our diversity program. But what I think is more important which I think Kelby got to, what do we do when we get there?

You have to create bridges for people to be comfortable to stay. So some of the support things that we do, not only do we have a biannual global leadership conference where we bring people in and plan what we can do differently, we have diversity networks set up across, blind and visually impaired, cognitive impaired, deaf and hard of hearing and the physically and mobility impaired. I mean, we really have broken it down to this level. Management training, which you raised is huge, attitudes. How do you get managers on the same plane with everybody else when you have a company that is in 170 countries worldwide, how do we get to all those people? It's tough.

I think where I started in the company was in a place called Corporate Instruction 62 and that's a corporate instruction that predates Section 508 which says everything we do in the company, all the products we have, have to be accessible. All the products and services. Now, that's a lofty goal that we have to be 100% by the end of the year and we measure that quarterly where we are in our products and I think I can report that most areas were around, hmm, 67%. Now, that's not very high with a corporate instruction that came out in 1992. Well, the problem is, IBM, if you read the financial papers, buys a lot of companies. We buy a lot of small companies quarterly. Every time we buy a new company, it brings our accessibility issues down because we buy products that are not accessible and then they go into the hopper and then we have to have the development plan for bringing them accessible. So in the big corporate world, we have got some great goals that are driving it, but they are hard to achieve when you're always buying other companies.

We also have a real estate team that does nothing but go worldwide and ensure that our buildings, as we buy these new companies we buy their buildings, that their buildings are accessible and we also have a global People with Disabilities Executive Task Force, which is really important.

I think I'm going to skip this slide which talks about People with Disabilities Executive Task Force. They just set a new one, it's called the Triple A Initiative to talk about Accommodation, Accessibility and Attitude. There are things they are pushing at the management level to really bring people on and then I'm going to skip all these technology slides that I had. I was going to talk about the technology that we are doing under a new umbrella called The Innovation, but I think that I can skip over because I really want to address some of the stuff that Kelby and Paul

brought up on the policy stuff.

From our perspective, as I said, the technology for our employees is not the issue. I mean, we are a technology company and we do accommodate and give our employees the technology they need to be productive in the work force and I might also like to add that some of our most far-reaching technologies in the area of assistive technology have come from our employees with disabilities who are in the research area who have developed these assistive technologies.

When I went to the network, the diverse network and said what are the issues you have right now for bringing on more people with disabilities and what are the employment issues that stop us from hiring more people, they came up with these three areas. These are what I would call gaps in policy coverage for hiring people with disabilities. One are the transportation issues. For blind and mobility impaired transportation to get to the job location. We can hire them, we can give them all the accommodation we need at work. But they have got to be able to get to the front door, and in some areas where we work, that's an issue. And what we don't want to do is hire people with disabilities and say, well, those people will always be working at home because we are a virtual company. I'd say, hmm, 50% of our employees do working out of their household. But as you talked about ghettoizing, we don't want to have all our employees that we hire with disabilities in their homes. We want to have other options. And this is a problem for us.

One of my colleagues wanted me to stress to you that -- and he happens to be a quadriplegic that for 20 years he's been traveling for the company and for 20 years the airline industry has not gotten any better in accommodating his travel. It's like -- you know, and it's just so frustrating. I have heard this from one of my colleagues in Austria who says "I fly every single week and every single week it's like it's the first time they have seen me. They don't know what I need to get on the plane, they don't know what I need to get off," and it's the same thing here. So one of our employees wanted me to stress that one of the areas we really need to address is the department of transportation. They are not keeping up.

Also the relief for retro fitting cars and vans for the mobility impaired. I know, Paul, you talked about the cost of technology and the assistive technology and how that's going up. Well, so is it for people who need vans and cars. Spending \$90 to \$100 for a specially equipped car is not within the means. And there's no relief for people who are employed. Once you are employed, you have to cover that cost and it becomes prohibitive. The cost for personal care for nonmedical issues, that's at issue for us. We hoped there would be a policy that would address that, and the other is IRS tax relief for disabilities and right now it's only available for the blind.

So those are the issues we're dealing with as a technology company with the gaps that could help us to hire more people with disabilities. Not that we don't

have a commitment and we're doing it. But these are areas in the policy area. Now, the thing I really wanted to talk to you today about are three things that I see happening from my job and where we're going in the future, how fast the technology is moving and where we're not keeping up; not only in the research area, but in the advocates for the staying on top of this and figuring out what kind of policies do we need to make this stay current. And one is the rapid development of new technologies without accessible formats or alternatives.

Virtual worlds and 3D learning environments which are really starting to take off and the slow development of new assistive technologies. You talked about e-recruiting. I read in "The Washington Post" last month, it may have been the week before, about a company that was using second life, if you all know what second life is. It's this virtual world. They decided to use it as their first tier of recruiting to their base applicants and I just went, oh, my goodness, you had to create an avatar and from there they would pick so people who could come in and do a face-to-face interview. I read that Google, Microsoft and this other company were all using this new technology, which is not accessible to bring in their applicants.

So that's the first issue. We have got to figure out, and it's not going to be inexpensive to make this technology accessible. But we have got to figure out how to do it now before it becomes so mature where it becomes ultra expensive to make it accessible.

Paul talked about the global accessibility standards that we're both involved in and working on it. And, Paul, you said the rapid development of these standards. I'm going to take the other side of this. My problem is the slow development of these standards is what really is the problem. I mean, we are now talking about standards in web accessibility, Wicked 1.0, which has set a standard for technology that is 7 years old. And in Europe, companies are still adopting this standard. This standard is great, except that the technology has moved so far beyond it that nobody is going to design a website in DOS. They are just not going to do it anymore -- [laughter] -- and so we have to figure out a way to move these standards much faster. Wicked 2.0 has now. Is about to be finalized. But again, it doesn't take in this new technology at all. And so now we have got a new standard that's going to be set. It's going to be functionally based, but it still is going to be behind the curve.

So we're looking at these standards. We're looking at the U.S. Paul and I are sitting on a committee that's developing the refresh of the Section 508. The European Commission just moved last week to sign a mandate to look at enforcement issues and also to look at what their procurement law is going to be. Japan and China are both exploring standards. Without a harmonized global standard that takes into account where technology is going, we're always going to be behind the eighth ball in enforcement. I mean, you can't even force WCAG in employment anymore. You just can't.

The other one is interoperability. As we move in these web-based standards, open standards become a priority to be able to build on all these applicants that are coming out.

And so interoperability is a real issue, not only with assistive technology, but with all the technology we deal with. And unless we have open standards, and that's my plug, all these technologies are not going to be able to work together or even going to be able to build on them. So those are the three issues I would like to throw out that I think we all should be thinking about. And thank you.

[Applause].

Question and Answer Session

Jeff Rosen:

As you can see, we're very fortunate to have the benefit from PJ's great advocacy and his work at IBM, so thank you very much.

Interestingly enough, last week at George Washington during my second life, we wanted to know how to include people with disabilities there and I said, what? Okay. We had to look for a person in England who had the expertise to accessible 508 issues and wanted us to consider his perspective in what we needed to include, and so we're developing that now. So that will be on the horizon, that will be future technology. But the most interesting part, I think, is what the audience has to say and how you're going to participate. But I'm looking at my watch and it says 11:30 now, so we're about 20 minutes left with questions and answers. So perhaps people online, you can go back and submit your question and someone can come up here to the room. Is that how we're going to work it?

All right. So we also have Steven Tingus' presentation to wrap us up before we do that. So who would like to volunteer to help with the microphone and help with our questions and answers? Andy?

Andy Imparato:

We're trying to get another microphone, Jeff, so this is not an ideal situation. I apologize. Since I have the microphone, is it okay if I ask the first question?

[Laughter].

Jeff Rosen:

Did you pay for that microphone, Andy?

Andy Imparato:

Okay. This is a question that is primarily directed at Kelby and Paul. Jennifer senses that I and some other folks in the room were at a gathering last week where

basically the leaders of the telecommunications industry, at least the Verizon and AT&T side of that industry, brought together a bunch of stakeholders to talk about what was happening in that space. And one of the take-aways for me from that gathering is that there is a convergence going on between telecommunications, television, the internet and, you know, basically information technology, All of those things that used to be separate industries are interconnecting in ways that maybe they weren't 20 years ago and probably 20 years from now will be even more interconnected. And every one of those industries has their own culture. So my question for Kelby and for Paul, is that I have the impression that the telecommunications industry the farthest along culturally in terms -- farthest along culturally in terms of understanding the importance of accessibility and that the internet industry is the farthest behind culturally in terms of understanding accessibility. I'm just wondering if you agree with that? And if you do, what can we today to change that?

Paul Schroeder:

This is Paul Schroeder. Thanks, Andy. I think I maybe agree with your premise that where the industry stands, telecommunications, internet, obviously the emerging of technologies and technology environments makes for interesting policy as well as accessibility challenges. I touched on some of those, Kelby touched and PJ, we all sort of touched on some of those challenges. Kelby mentioned the Coalition for Organizations for Accessible Technology, COAT, a rather clever acronym but I think maybe has to go to Karen Strauss as the mother of that acronym, maybe it was Jennifer, one of those two.

And that's precisely the reason why COAT is trying to look at this policy environment in a different way and look at the emerging of internet and telecommunications technologies as video and TV becomes a part of the telecommunications environment and part of the internet environment and vice versa. We need to set policies that ensure accessibility so that things like captions and encryption remain relevant across the environments. You know, I think there has been a lot of shifts among companies. Yes, the telecommunications companies have been fairly strong in terms of accessibility. They have strong stakeholders. Those in the internet world, maybe a little less so. However there has been a lot of development around accessibility to the internet. IBM has done a lot of work in that area. Microsoft has done a lot of work in that area and there's been a lot of work even among open source community around internet accessibility. So maybe at the company level there's less accessibility. But probably at the -- I'm somewhat optimistic. I think PJ made exactly the right point about the slowness of accessibility standards to keep pace with developments in the rapid, firing changing world of the internet and I think that's a real challenge we should probably focus a little bit more on.

Last point for me on this topic is if there is a community that really needs to catch up in this environment, it most assuredly is the television, cable TV, et

cetera. This isn't really a point of this morning's forum because we are focused more on employment, but I have to tell you that environment, cable and otherwise, broadcasters are well behind in terms of accessibility. They have been somewhat fortunate because captions have been pushed upon them and have been developed over the years and we have a fairly robust caption environment. Though I know that there are still lots of gaps and holes in that environment. There is a long way to go for accessibility and let me just leave you with this point. When we make the shift to digital television and all of the premise that, that entails, we are going to create an environment that is extraordinarily difficult for people with disabilities to access, even the comparatively simple task of selecting a channel and entertainment program, let alone taking advantage of the prospects that digital television is supposed to deliver in terms of programming.

Kelby Brick:

That's really a very interesting question, Andy. This is Kelby speaking. There are some points that I agree with you on. Telecommunications companies are more aware of accessibility than say internet or cable or television industry. And I think that is partially a result of telephone companies being in a heavily regulated environment. Talk about policy of accessibility and that's really a big deal when those changes occur. And with the internet, they are dealing with like the wild west -- [laughter] -- we have people who are saying what? Government telling me what to do?

They are just not used to that kind of environment really. So I do agree with you. But also I wouldn't go so far as to say that telephone companies are ahead. They are aware and they have been, you know, working -- I have been working in the telecommunications field for a short time and I really don't see -- well, I see very little -- very few executives or people with disabilities focused on accessibility. They are more aware of it and they are saying all the right things, but I don't see that converting into action and I think that they really need to make more of an effort to hire people with disabilities.

Sonny:

I would like to open with a quote, "Knowledge is power"...And when we face it people, they don't know what to do. They don't know how to approach this issue and they are scared and they feel threatened and so they have closed their doors to that issue. The same thing happens with managers. Right, the same thing as Kelby mentioned. People with disabilities are involved in disability programs and that's true because they are aware and they know how to handle those issues, so there's more of a comfort level of placing them. But placing people who are disabled in non disability environments and making the general community more aware has been slight. There's one issue that has not come up this morning and that is the department of budget and money. When we bring up money issues, oh, wow, we don't have the money for that. We have to put down an item in our budget and we have to prepare a budget and that's going to happen in one, two years from

now. So that's one thing that gets forgotten to be added are the line items in budgets. So I think we should set up a training program and train managers or any program officials, IT people, CEO's and people who are in charge of people, even budget people, about this issue to get them to feel more comfortable to include our issues in their programs. That's my personal observation.

Jeff Rosen:

Thank you, Sonny. That was an excellent comment. Another question?

Bonnie O'Day:

Thanks, Jeff. Okay. Am I on the mic now? I guess my question is to Paul, but anybody can respond to it. What I struggle with a lot and I think a lot of other people who are blind or low visioned struggle with also is the whole issue of efficiency and I think there's a world of difference between accessibility and actual efficiency. And in my later years I have kind of started to accept that there's just a lot of things that we are not going to be as efficient as people with vision. But do you see ways that the whole efficiency issue can be addressed or is that just kind of something we're stuck with?

And a related sort of comment is sometimes I think that we do still sometimes need the assistance of a person available in the workplace with vision who can help us with those efficiency things, even if something is accessible, a minute or two of somebody else's time is just really important and I think that that's an accommodation that employers may think that they don't need to provide anymore if they provide the accessible technology.

And one final thing while I'm picking on Paul here...Is that I think you may have missed one of the big barriers that I at least face and that is the issue of lack of technical support. I think that the manufacturers of assistive technology, at least the technology that I use, do an incredibly poor job of support, at least the technology that I use and this is a plug for AFB to provide that support.

[Laughter].

Paul Schroeder:

Well, I'll try to be efficient in my response. Technical support, absolutely and I kind of glossed over that, but you are absolutely right, it is a key problem.

I think there has been a fair amount of effort, particularly at developers to try to improve efficiency, to try to address the needs of blind and visually impaired users in websites or in other it environments, to be able to quickly gather information that is needed. You know, I don't think it's entirely successful. My sense is that there's probably more research that can be done, more effort that can be done to assist at developers in better understanding how individuals with vision impairment can access information as they need it. I do believe the environment

has improved and I would agree with you that there are many instances that while it is technically doable to carry out an activity with using assistive technology, it is much efficient to use a reader.

I skipped over what I was going to say about access to print information, the problems of handwriting and I would just note that there is still a surprising number of users. Those of us who are blind would appreciate this -- there are a certain number of users that still love to use their opticon because of being able to handle even handwriting in some instances. So, part of what I would love to see happen is more assistance for the AT developers in the world to be able to improve the efficiency of their products. I suspect that they probably need some assistance in doing good user testing and research on efficiency. But there are always going to be challenges in providing information. Excel work sheets are probably my favorite example mostly because I hate them. They are not well designed for blind people. Let's face it. They are not well designed for people who have to move one line or so at a time. And it's always a challenge for individuals who are trying to deconstruct something that is used for conveying information in large connected sorts of ways who can't work in that -- whose visibility means that they can't work across that kind of a mapping structure

PJ Edington:

This is PJ. And I would like to just say that we're dealing with this exact issue on Section 508 refresh on the subcommittee I sit in and how to define comparable access. And it actually came up two days ago, is how do we define efficient?

How do we define efficient...And there's been oh, about 150 e-mails back and forth on this. And we're going to have to really narrow it down. But the problem that came up is that what is efficient for one group with disabilities is not efficient for the other. It's can we write a definition that says somebody who uses a head pointer to type has to be as efficient as somebody who types 90 words a minute?

And we have had these discussions back and forth. When you're defining comparable access, which is in Section 508, it's in the regs, how do we determine what that is? And is it measurable? And so we're grappling with that same issue right now.

Jeff Rosen:

We have got time for one last question before we turn it over to Steven Tingus.

Female Audience Member 1:

I'm not sure that this is a question or a comment, but all of the examples that have been given about a lack of follow-up and the like seem to -- well, not all, but many of them seem to be connected with the field of blindness and not being able to see. And I just want to mention that we have already addressed these issues and I would really like to see expansion on that for people who can't get captioning

online or on the web. On the internet right now there are so many videos and things that are spoken online without captioning. Why are those not captioned? Everywhere we go we see things that are happening that could be captioned but aren't.

We are so many years behind in using captions for everything that could be captioned and it just seems like it's not worth it for me to go to anything that's going on in the city, you know, various events that are going on because I go and there's nothing captioned. Of course an interpreter would be nice if that was provided as well and most of the time there's no interpreter either and no captioning. And I really feel that captioning should be add to many of the public events. So I'll stop for now.

Jeff Rosen:

This is Jeff. And I have to say that Kelby is a really fabulous advocate. That's his mom who was just complaining about the captioning -- [laughter] -- and it's really a great comment.

I want to have one final question from a very good friend of mine, from...

Tim Kregan:

Thank you. My name is Tim Kregan. I'm with the U.S. Access Board. I have been sitting quietly in the back here. We are in the process of revising accessibility standards and guidelines. And as PJ said, 150 questions on one e-mail is not unusual. You're lucky to deal with one question

PJ Edington:

No, no, that's just on the one little one. I mean, I can't tell you how many e-mails I get a day.

Tim Kregan:

I'm just surprised my e-mail hasn't come to a complete stop. But one of the things I'm stuck with when I listen to people that I hear and that I'm thinking about both in my previous experience in disability advocacy and now in my position in the government is education. You constantly, have to educate people all the time and I know sometimes it's frustrating because you feel like I just told you what I need. I just told you what I require -- that I require captioning or I require braille or I require directions for movement -- or, you know, why do I have to keep explaining this?

But in a way that's kind of the reality of what it is. If you look back, five, 10, 20 years ago, there's an example. When you look back when we started, what the difference is today, we have come through most of this stuff and yes it's frustrating, but as we keep on keeping on, things will get better. One of the things I'm seeing at my workplace is the Access Board has a really accessible conference room. They have a loop system with great microphones. And I'm spoiled because everywhere

else I go, we don't have automatic doors, loop systems, captioning. I have to ask and people say, oh, you're hard of hearing so you need a sign language interpreter. It's kind of like people have made some progress and they want to help you and they understand that they have an obligation to do this, but they don't really understand what they are supposed to do because they are trying to match up the wrong solution with the particular disability. But all I can do is say thank you for trying. Let me help you understand what you need to do.

With regard to refresh, all I want to said is that the Access Board very, much appreciates the input that we are getting. One of the things that I would specifically like to ask because we have been asking this, we just haven't gotten a lot of input on it for some reason.

Are there any design element or requirement that we could put in which would assist people with cognitive disabilities? We would really appreciate that input. You can put me in your Access Board...

Closing Remarks

Steve Tingus:

Thank you, Jeff, and thank you all for this opportunity. As was mentioned, I'm the Director of the National Institute on Disability and Rehabilitation Research, the funding agency for Cornell and this effort. I would like to take this time to thank Susanne and her effort with AAPD. This is what it should be all about: partnerships working on specific issues to improve the outcomes for people with disabilities, and I think a lot of credit goes to PJ because we're trying to build the corporate community to be a part of this. I have seen an evolution in my adult lifetime of associations like AAPD saying "Hey, this is what we have to do." And I'm very excited that NIDRR is a part of this process. So what does this all mean? Why are we here? And what do we need to do as both advocates, agencies and corporations?

The ultimate goal really is to harness technologies. One thing that wasn't described today is the type of technologies for specific disabilities. Not only physical and sensory, but cognitive. NIDRR has taken a leadership role to make sure that people with cognitive and developmental disabilities have the technologies that they need because they are participants in the society, whether we like it or not. And I think that we are making that well known across the country to make sure that those individuals are active participants in daily life. So, please, don't forget about that.

The other thing is with regard to technology --technology is great, okay, but it has a lot of issues, and we can't develop technologies just for technologies. We have to keep the end user in mind. We have to train them. We have to assess their needs and we need a life span approach to the evolution of those needs as they go into the aging process. So we have to keep all of this in the back of our minds when we

approach these issues.

Finally, we're not going to make strides in changing the mind set of the federal government or the corporate world without being a part of that change. And so we need to identify emerging leaders in the disability community that have skill sets and the energy to be a part of that change. One of the special initiatives that we're doing is this whole initiative on AT reuse. Assistant Secretary Hager with the help of Jeremy Basay, who is in the room, have taken the leadership role of establishing a dozen reuse sites with the National Tech Center at Georgia and so NIDRR is working to bridge this work with the state and local networks to improve the ultimate outcomes and access for people with disabilities.

So when you leave this forum today, just remember the issues are difficult, but the solutions are achievable. Thank you.

[Applause].

Jeff Rosen:

Susanne said that we do have some time left for questions from the internet. So, would you like to read those off Susanne and then we can have the panel answer that? I think we can continue maybe 10 more minutes if you will be patient with us. Thank you.

Susanne Bruyère:

Can you read those to us in the next remaining minutes that we have?

Jeff Rosen:

Sure. The first one is, "Is it my understanding that Mac is taking steps with its latest platform to run Windows based software through a Mac from its boot camp? How is this specialized with Windows software with Mac?" Paul, do you have to field that one?

Paul Schroeder:

Jeff, can you please repeat the question?

Jeff Rosen:

Yes. The question was how does this impact the specializing Windows software to the platform and it relates to the Mac of running through those software?

PJ Edington:

I would just say unfortunately we don't have an Apple person in the room and if we did, they might be able to answer that. But I haven't a clue. We don't do much on Mac. Do you, Kelby?

Kelby Brick:

Well, maybe we can move on to the next question.

Paul Schroeder:

This is Paul Schroeder with AFB. We don't have an answer to that either, but I will. It's an interesting question I will take up with our tech guys because I think it leads to some interesting accessibility challenges. The other thing I would say is that of course Mac has developed for their own operating system and I congratulate them doing it, built in to the accessibility to OS and it running on the OS. There are some challenges to that approach, but a step in the right direction.

Jeff Rosen:

Well, our next question, "If we wait for litigation to technology -- "

Kelby Brick:

Jeff, if you can hold on for one moment, this is Kelby Brick.

Just a quick answer. The boot camp is a definite good opportunity because there is not a lot of information available to software specialists in the field of accessibility, okay. But our own company HandsOn VRS does provide solutions to video compatibility with both PC's and Mac on both of their platforms so we expect that to be a trend to be representing other companies and other fields. So we hope to see that moving across platforms.

Jeff, next question, please.

Jeff Rosen:

Sure. "If we wait for litigation to test technology advancement, we will always be about three years behind just to get it. It seems to me that the only people capable of generating quality policy on emerging technology are the developers of those technology, who might not understand the policy ramifications of this. What steps might we take to bridge the gap between politics and technology? "

PJ Edington:

Oh, this is right to our sweet spot. That's a great question and one of the things we have been working on and we have even approached NIDRR and have talked to the Department of Education and IBM said the problem we have is by the time the technology is developed, it's too late to talk about accessibility. However, we're not getting people out of the universities that know anything about accessibility.

So our idea is to require everybody who is in computer design to have to take courses on how to make technology accessible. And we have a project that we started last year wherein an open source platform, we asked people on the oasis committee to start developing code and it was a worldwide context in Tokyo, there was one in Europe and one at a school in U.S., and we gave an award to the young people who had written the code and we brought them to Tucson and our idea was that we got to start a ground as well up in the universities and even before the

universities for people who were actually learning computer skills. Now, we also have gone to NSF and have a proposal in to start working with universities to start trying to figure out how to get IT into the curriculum, all curriculums on computer programming that people start. So that gets to your question about how do you get to the developers. We have got to start early on and make sure they know a lot about how to develop accessibility technology of the.

Jeff Rosen:

I have something quick. We have one question from the audience. Who had a question here?

Female Audience Member 2:

Hello. My actual disability is different. I'm in a wheelchair so my problem is getting in and out of the buildings. It's actually not a comment, it's just a statement to make everybody aware that even though they have the handicap buttons that you can push and open the door everywhere, I'm working at USDA, but my hand and upper body movement are not so good, so I can't even push those buttons, so I have to stand in front of the building until somebody comes along and they pass by me. And in the elevators, they lowered the buttons, but they are not low enough that I can reach them. And it's -- again I have to wait for somebody to come in. Sometimes I sit inside the elevator until somebody comes in because I'm trying to push the doors but I can't. And that's the kind of -- well, I can't find the word, but it's kind of intimidating. Once I'm -- you know, I'm at my work and in my office, I'm fine. But to get there is a problem. I find it's an issue that should be addressed. That they shouldn't make a resistant button. Because if it's resistant, I can push it very well. That's my comment. Thank you.

PJ Edington:

Thank you. Good job.

Jeff Rosen:

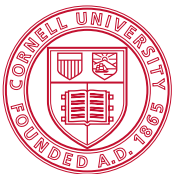
I want to say I have really appreciated your comment and you have made a powerful point. Technology is individual as well and we tend to picture a systemic approach about making it more accessible for the mainstream and we also need to include issues that come up just like you brought up and it's a very well-received point. So, Susanne, like she said, do you have any final words?

Susanne Bruyère:

Only to say thank you.

Jeff Rosen:

And I would like to thank everyone for coming. I would like to thank my panelists. Everyone, everyone here in the audience, and everyone online, thank you very much for participating. And if there's any further feedback, please feel free to approach me or the panel. We're all here. There are also people from AAPD here and you can let them know what you thought of this forum and that will help us improve the next event. Okay. We'll see you around. Bye-bye.



Cornell University

For more information about the Rehabilitation
Research and Training Center on Employment
Policy for Persons with Disabilities contact:

Susanne M. Bruy re
Employment and Disability Institute
Cornell University
201 ILR Extension Building
Ithaca, New York 14853-3901

Tel	607.255.7727
Fax	607.255.2763
TTY	607.255.2891
Email	smb23@cornell.edu
Web	www.edi.cornell.edu